

Specification of Invention
July 12, 2004

Title of Invention: Bar Clamp Corner Squaring Device

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Specification:

The invention consist of four (4) pieces of metal fabricated to 90 degree corners and is used in conjunction with beam clamp assemblies. Drawings (Figures 1A and 2A) describing the bar Clamp Corner Squaring Devices in detail are attached

The metal fixtures are made from 1/8" band iron and are welded in the corners and at the base.

The fixtures are 1 1/4" high and each side is 3 1/2" long.

The four (4) corner pieces were designed to be used to hold picture frames, drawers, or any other similar (four) 4 sided assembly flat in place and in square to allow them to be glued.

Cardboard or paper can be placed over the fixtures to prevent excess glue from getting on the fixtures.

People familiar with this art will be able to use the devices easily.

Bar Clamp Corner Squaring Fixture
Continuance of Application 10/084,786
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Statement Regarding Federally Sponsored Research or Development
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Not Applicable

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Reference to Sequence Listing a Table, or a Computer Program Listing
Compact Disk Appendix
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Not Applicable

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Clamp Fixtures
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This is a continuance to application Number 10/084,786, filed on June 14, 2002, and the Continuance of Applications dated January 27, 2003 and February 24, 2004.

Field of the Invention

This invention relates to clamp fixtures of the type used in association with pipe clamps and bar clamps and more particularly to clamping systems which are easily changed to facilitate use of any of a number of different clamping devices which are specifically adapted for clamping certain types of work pieces or other articles.

Background of Invention

Pipe clamp assemblies and bar clamp assemblies hereinafter referred to as beam clamp assemblies. Beam Clamp assemblies are commonly used to hold work pieces or other articles in a fixed position to allow for other operations such as cutting, drilling, nailing, screwing, gluing etc. Beam clamp assemblies usually consist of a linear beam (e.g. pipe, rod, or bar) and a pair of opposing jaws, one of which is fixed to the beam at one location and the other while being attached can be moved by sliding it along the beam. The ability to slide one of the jaws allows for the jaw to apply and relive pressure. Normally the jaws are made in a manner that provides for them to have parallel opposing gripping surfaces. This allows the bar clamping assemblies to clamp work pieces and other items having flat parallel opposing surfaces.

At the present time, many clamping devices cannot hold the work pieces or other articles in a square position that is often required without additional jigs being made. For example, to grip the corner of picture frames, drawers or other similar assemblies special configured miter jigs having mitered gripping surfaces have been designed. These specialty jigs have been provided with fasteners that allow the jigs to be attached to the jaws of the beam clamp assembly. These fasteners cause a disadvantage as they require to be attached to a particular type beam assembly and cannot be used interchangeably with the standard beam clam assembly. Other clamping devices also require attachment of multiple jigs to clamp work pieces or other items. This lack of interchangeably and requirement of multiple jigs can be a great disadvantage to workers who must match jigs for a particular job to a particular type of beam clamp assembly which may or may not be available and cause loss of time.

It is desirable that jigs or other fixtures used for clamping be versatile to allow for clamping without the need to attach special jigs to a bar clamping assembly or the need to attach multiple jigs to a bar clamp assembly and still be able to hold the work pieces in square. This is extremely important in the assembly of picture frames.

The present invention provides the versatility of not requiring to be attached to a special jig but can be used on different bar clamps. It can also maintain the assembly in a square, level fashion as the Bar Clamp Corner Squaring Fixture has a bottom which allows the pieces to rest on them while they are being assembled.

Summary of the Invention
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This invention is unique as it provides adaptors that do not require attachment to the beam clamp assembly but utilize them to clamp work pieces or other items in a square manner. To utilize the functionality of this invention it is required that four (4) adaptors be used and four (4) beam clamps. The smooth surface minimizes scarring and the strength of the 90 degree welded corned assures that the clamped work piece will be maintained in a square fashion.

The usage of these adaptors provides great flexibility in clamping a myriad of sized work pieces. Changing the length or width to accommodate a large or small size work piece can be done without changing out any specialized clamping fixture. It only requires that the position of the adjustable jaw on the beam clamping assembly be moved.

The adaptors will draw the corners of a frame together and maintain them flat. This is an important requirement when attempting to assemble parts cut at 45 degrees. If the parts are not maintained in a level position the corners will "open" and will not provide a professional appearance. The Bar Clamp Corner Squaring Fixture is capable of keeping the corners square and flat because they are nested in the jaws on the beam clamping devices which apply pressure to each device and the Bar Clamp Corner Squaring Fixture provides a support for the assembly that is being put together.

If gluing is required, the adaptors can be protected with a piece of paper or cardboard which can be discarded once the work piece has sufficiently cured.

The adaptors are small in size and do not require much storage space as they can be nested.

Description of Drawings
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There are two drawings attached:

Drawings:

Figure 1A: Shows the adaptor separately and on one beam clamp assembly. The dimensional information for the adaptor is also provided in three (3) separate views of the adaptor.

Figure 2A: Shows all four adaptors in place and how they would clamp a picture frame with four beam clamp assemblies.